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ABSTRACT

This paper identifies some of the major developments and activities in cable television in relation to education in Canada. It begins by providing a general overview of the cable industry from 1952 to 1983, including the revision of the Broadcasting Act in 1968 to give jurisdiction over the cable television industry to the newly created Canadian Radio-television and Telecommunications Commission (CRTC). The discussion covers licensing regulations before and after CRTC, pay-TV, and the use of communications satellites to deliver television signals. The report concludes by describing and providing examples of services provided via educational channels and opportunities for community programming offered by cable television systems, including CRTC regulations governing these activities. (10 references) (DB)

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TVOntario

Office of Development Research
Bureau de recherche pour le développement

NEW TECHNOLOGIES IN CANADIAN EDUCATION

PAPER 10

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CANADIAN CABLE TELEVISION AND EDUCATION

By Thelma Rosen and Conrad Wieczorek

Study Coordinator
Ignacy Waniewicz

January 1984

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Papers in the Series

NEW TECHNOLOGIES IN CANADIAN EDUCATION

Paper 1	An overview of the educational system in Canada
Paper 2	Communications and information technologies in Canadian elementary and secondary schools
Paper 3	Communications and information technologies in community colleges in Canada
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Paper 5	Communications and information technologies and distance education in Canada
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Paper 14	Educational teleconferencing in Canada
Paper 15	Telehealth: Telecommunications technology in health care and health education in Canada
Paper 16	The high technology industry and education in Canada
Paper 17	New technologies in education in Canada: Issues and concerns

Copies of these papers can be purchased from TVOntario, Box 200, Station Q, Toronto, Ontario, Canada M4T 2T1.

FOREWORD

We dedicate this series to its designer and director, Ignacy Waniewicz. His death on February 21, 1984, has left us with a feeling of immeasurable loss.

With uncanny intelligence, instinct, and energy, Ignacy introduced the first educational television programs in his native Poland in 1957 and rose to the position of Director of Educational Broadcasting. During the mid-1960s, he served as a Paris-based program specialist in the educational use of radio and television, working for UNESCO in Chile, Cuba, Ivory Coast, Upper Volta, Mexico, Egypt, Nigeria, Senegal, Ghana, Great Britain, United States, Switzerland, and Israel. Ignacy shared the experience and insight he gained from this work by teaching and writing in Polish, German, Russian, Hebrew, Spanish, French, and English. His achievements are widely recognized in the broadcasting and academic communities on four continents.

As Director of the Office of Development Research at TVOntario, Ignacy explored his farsighted and consuming interests in adult education, media literacy, television as a primary tool for lifelong learning, and most recently, the educational uses of new technologies. His work did much to shape and guide TVOntario's progress over the last 15 years.

It is with love and respect that we dedicate this series to Ignacy Waniewicz. In its enormous scope, its thorough documentation, its emphasis on concrete results, and its concern with educational issues, this series reflects both Ignacy's vision and his intellectual legacy.

Donna Sharon
for the Office of Development Research

Preface to the Series

NEW TECHNOLOGIES IN CANADIAN EDUCATION

These papers in the series "New Technologies in Canadian Education" are the result of an international commitment. In June 1980, the Third Conference of Ministers of Education of Member States of the European Region of UNESCO adopted a recommendation requesting the member states to carry out joint comparative studies on well-defined problems of common interest in education. At a subsequent meeting of the European Region National Commissions for UNESCO, 14 subjects were agreed on for joint studies.

The theme "New Technologies in Education" was selected as study #11. The 17 countries participating in the study are Austria, Belgium, Denmark, Finland, France, Hungary, Italy, the Netherlands, Poland, Spain, Sweden, Ukrainian SSR, USSR, United Kingdom, as well as Canada, Israel, and the U.S.A. who are also members of the UNESCO European Region. At the first meeting of the national coordinators from these countries, held in October , 1982, at the University of South Carolina in Columbia, South Carolina, U.S.A., a plan was adopted for the study. In the first phase of this plan, the individual countries are to report on the ways in which the new technologies are being used in education. (A brief outline of the international design is available on request.)

The Canadian Commission for UNESCO was requested to coordinate, on an international level, the first year of the study. We are grateful to the Canadian Commission for selecting TVOntario, and the Office of Development Research (ODR) to be in charge of this task. The ODR was also asked to coordinate the Canadian contribution to the study, with financial support from the Department of the Secretary of State. We gratefully acknowledge their assistance.

In preparing the Canadian review of the use of technology in education, the ODR contacted a number of educators, academics, government officials, administrators in educational communications organizations, and others, across the country. It became apparent that there was a strong need for a well-documented account of the uses of both the "older" technologies (e.g., film, audio, television) and the newer technologies (e.g., computers, videodiscs, videotex) in the complex Canadian educational system.

Early in 1983, several types of research activities began simultaneously: designing instruments to gather information from each type of institution or interest group, identifying uses and users of each type of technology, and exploring the areas where Canada's distinctive features predispose toward technological developments. The 17 papers listed on the back of the title page emerged as a result.

Information for these papers was provided by hundreds of individuals expressing their own views or reporting on behalf of educational institutions and organizations, government departments, public and private corporations. We extend to them our sincere thanks.

I would like to acknowledge the contribution made by Thelma Rosen who assisted in the development of the inquiry instruments and played a major role in the gathering of this information. The task of supervising the final editing, production, and distribution of the papers was assigned to Donna Sharon. Her resourcefulness and persistence have contributed greatly to the completion of this series. Sharon Parker typed most of the papers from the initial drafts to their final versions. Her dedication made it possible to complete the study in such a relatively short period.

While the preparation of these papers has been supported by the Canadian Commission for UNESCO and the Department of the Secretary of State, the papers' contents do not necessarily reflect the official views of either party on issues related to technology in education.

Ignacy Waniewicz
Study Coordinator
Director
Office of Development Research
TVOntario

January 1984

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GENERAL OVERVIEW OF THE CABLE INDUSTRY 1952-1983

From the early 1950s, when cable television originated as community antenna television systems (CATV) up to the present time (when there are over 600 cable systems in operation) the cable industry in Canada has changed substantially. The cable industry's beginnings were humble. Shortly after broadcast television began in Canada in 1952, many small communities were unable to receive satisfactory over-the-air television service because of their distance from television transmitters. In some large cities, high-rise buildings also interfered with signals. These communities were interested in receiving not only the Canadian Broadcasting Corporation (CBC) signals but also those of U.S. border stations.

Local entrepreneurs - often retailers of television sets - installed antennas on high towers to trap the distant signals and amplify them, and then delivered them by coaxial cable strung between telephone poles (or in some areas underground) to the residents of a community for a monthly fee. There was little regulation of CATV operations. The then federal Department of Transport's main requirement for a license to set up an antenna was to meet technical standards that would prevent interference with broadcast signals to private outdoor roof antennas. By 1957, cable operators had formed a national association to represent their interests to government, telephone companies, and other pertinent organizations. CATV grew rapidly as large segments of the public waited impatiently for their communities to become cabled and thus to receive improved television reception, especially from more distant stations.

In 1968, the federal government revised the Broadcasting Act to give the newly created Canadian Radio-television and Telecommunications Commission (CRTC) jurisdiction over the cable television industry. The rapid growth of the cable industry was of concern to the CBC, to private commercial television broadcasters, to federal and provincial agencies, as well as to the viewing public. The CBC was afraid that the cable industry would fragment audiences and erode the CBC's mandate as a national broadcaster with the goal of reflecting Canada to Canadians; commercial broadcasters were worried about financial competition and potential loss of revenue; the government was afraid that Canadian culture would be overwhelmed by American programs since television

signals from the U.S. were increasingly beamed into Canadian homes.

The CRTC drew up a new set of rules for CATV licensees. A foreign ownership limit of 20 per cent was placed on cable companies. New licenses issued by the CRTC provided individual cable firms with exclusive franchises to operate within well-defined boundaries with the CRTC reserving the right to approve any amendments in the license, such as a change in subscriber charges, in subscriber services described in the license, in company ownership, and so on.

The CRTC also laid down rules regarding the priority to be given to the signals that would be carried by cable television operators. The priorities were:

- local CBC stations
- local educational stations
- other local stations
- regional CBC stations (unless duplicates)
- all other regional stations (unless duplicates)
- a community programming channel (see the second section of this paper)
- extra-regional CBC stations
- extra-regional educational stations
- any other extra-regional stations

Once all those priorities were met, the cable operator could provide distant signals not licensed by the CRTC, i.e., from American stations. Cable systems were permitted to carry a maximum of three commercial signals and one noncommercial signal from the U.S. (Subsequently federal tax laws were changed so that Canadian advertisers would have less incentive to advertise on programs on U.S. commercial stations that were carried by Canadian cable systems.) Advertising was prohibited on the community channel and on

any other channel programmed by the cable operator (i.e., non-over-the-air channel).

Other CRTC regulations later established prohibited cable distribution of, foreign off-satellite signals. Domestic satellite service delivered via cable was not allowed until 1979, when permission was given for cable operators to carry House of Commons proceedings. Cable television licensees were granted the right to own and operate television receive-only (TVRO) earth stations.

When a cable operator is granted a license by the CRTC to begin operations, the operator is restricted to a specific geographical location, usually a part of a larger municipality or an entire smaller one, and everyone wishing cable service in that location must take it from that operator. Not everyone who owns a television set subscribes to a cable service. Those who do pay a monthly rate of $5 to $10 per month to the cable operator who gives them better TV reception and more channels than they would otherwise receive off-air - up to 13 channels. The monthly rate is set for each cable operator by the CRTC, and any changes in rate have to be applied for and approved by the CRTC.

In many large cities, cable operators are programming up to 30 channels and are allowed to charge subscribers an extra fee for more than the basic 13 channels. This fee is in the form of rental charges for the electronic converter which allows these extra channels to be viewed on the subscriber's television set. This fee is not controlled by the CRTC. The technological potential exists to receive up to 122 channels and there are a number of thrusts to program these channels in an entrepreneurial way.

"Pay-TV" or payment of an additional fee to receive yet more channels than those provided by a converter was debated in Canada for several years. In 1982, the CRTC decided to grant licenses to eight private companies for pay-television operations that would provide current Canadian and also non-Canadian entertainment (films, stage shows, etc.), and sports events programs on cable channels. One company was issued a license for a national pay-TV network in English and French. The other licenses granted were to regional applicants in British Columbia, Alberta, Ontario, Quebec, and Atlantic Canada. The importance of pay television to Canadian film and program producers and the desirability of creating a

themes in the CRTC's decision to license pay-TV cable operators. Cablecasting of pay-TV programs began in February 1983 with the licensed companies delivering programs on cable channels in certain cities. The general public has up to now responded coolly to pay-TV and at least two of the regional pay-TV companies have ceased operating because of financial problems.

A second programming thrust has been the recent move to provide, also for an extra fee, Canadian "specialty" programming services such as channels dedicated to video music programming, arts and public affairs programming, multilingual programming, health programming, and children's bilingual programming. The CRTC accepted applications for these programming services in 1983. Hearings on these applications began in January 1984. Successful applicants could begin programming by the middle of 1984.

With the arrival of the pay-TV and the specialty channels, the CRTC will be developing its policies on "tiering," i.e., the packaging of groups of channels by the operators to cable subscribers whereby higher monthly rates would be charged for the more popular "packages."

One other thrust in the provision of cable subscriber services is that since early 1982 the CRTC has permitted cable companies to conduct experiments with specialized nonbroadcast services such as home opinion polling, home banking, electronic newspapers, house protection, etc. A computer company is now experimenting with cable systems in Ottawa and Vancouver to deliver computer software (educational software and games) to homes. Policy decisions will not be made on the future of these experiments until 1985.

Delivery of television signals via satellite to cable operators is developing. Following a 1981 report by the Extension of Services Committee established by the CRTC, a private company, Canadian Satellite Communications Corporation (CANCOM) was authorized to distribute via satellite a package of four Canadian television signals to cable operators to underserved and remote areas of Canada. In a further decision in March, 1983, the CRTC authorized CANCOM to distribute via satellite a package of three American commercial signals and one American noncommercial signal to remote and underserved Canadian communities as well

as to existing cable companies in communities not necessarily underserved.

A situation that has sometimes created dissension among cable operators, telephone companies, utility companies, and provincial and municipal bodies is the lack of consistency across the country regarding ownership of the necessary hardware. Cable companies by and large own their receiving antennas, the head-end that houses a system's receiving equipment, the amplifiers, and the main converters that they use to re-channel broadcast signals. In some cases, a group of cable companies may pool their financial resources to own a joint head-end for a regional group of companies. Sometimes the land on which the head-end is built is leased, not owned by the companies.

The main underground trunk cable may be owned by a private telephone company, the province, the municipality, a utility company, or a combination of two or more of these. Various leasing agreements are then made. Cable companies usually own the drop cable, i.e., the cable leading from the trunk line to subscribers' residences, and they own the connecting equipment to the residences and installation equipment inside the residences. The cable systems lease telephone poles from the telephone companies, utilities, province, or other owner in order to string overhead cable. Here again, ownership of overhead cable varies from company to company and province to province.

According to the 1982-83 CRTC Annual Report, there are 5,572,000 households wired for cable in Canada - about 57 per cent of Canadian households. Approximately 36 per cent of all subscribers have converters and receive augmented channel service (up to 35 channels), which includes alphanumeric channels offering program schedules, weather, airline schedules, food prices, and so on. In larger cities, some cable operators also carry multilingual programs and a children's channel (or portion of a channel) carrying, for example, the TVOntario program package "Galaxie," an eight-hour service for children.

EDUCATIONAL CHANNELS AND COMMUNITY PROGRAMMING ON CABLE TELEVISION

As already mentioned, the CRTC has required cable operators to carry the signals of local educational broadcasters on the basic band. The principal educational broadcasters are the provincial educational communications authorities (TVOntario, Radio-Québec, ACCESS Alberta, and the Knowledge Network of the West). Some cable systems offer channels or time on channels for educational purposes to local school boards to cablecast their inventory of programs. The beneficiaries of cable channels are also some community colleges and universities who use them for cablecasting of formal courses for academic credit and for nonformal general interest courses. (See Papers 5 and 7 for discussions of distance education on cable.)

Some cable systems also provide rerun channels for provincial educational broadcasters. For example, a group of cable companies offers a repeat channel to TVOntario for university courses and for some other TVOntario educational programs. According to the CRTC policy statement of February 1975, the concept of a special cable television channel devoted to community programs originated with enterprising cable television operators as a means of gaining new subscribers. Following the CRTC's inception in 1968, it encouraged the development of the idea through various guidelines and policies. Its policy statement of February, 1975, expanded earlier guidelines, which said that cable television can assist in the development of a community identity through locally produced programs on its community channel, and that licensees can enrich the life of the community by fostering communication among individuals and community groups.[1] The 1975 policy statement began with the CRTC position that the community channel had already proved that it offered an important public service and should be maintained and strengthened.

The CRTC ruled that from 1976 each cable licensee must reserve a channel on the basic cable system VHF band for community programming. With the exception of some very small systems in remote areas, almost all of the cable operators have originated and supported programs on their community channel. The extent to which the company supports the

channel is taken into consideration by the CRTC when renewal of cable licenses is being applied for.

The following statement from the CRTC's 1975 cable policy sums up the rationale behind the community channel:

> "The intention is to service communities with a new and important service - one that does not exist in the areas for which cable television systems are licensed and which they alone have the means and responsibility to provide. Just as an over-the-air broadcasting licensee carries with it direct social commitments, so the community channels must become a primary social commitment of the cable television licensee."[2]

The term "community television" has evolved to describe the programs of the community channel. A community may be a geographical region, a community of interest, or a neighborhood. Programming has varied from operator to operator but usually includes coverage of local events such as school board and municipal council meetings, church services, all-candidates meetings, sporting events, rallies, parades, explorations of local issues and interviews on local issues, phone-in programs, coverage of amateur theatre productions, etc.

In addition, time on the community channel is available for local groups to produce programs of their own. The cable company makes staff available to teach production techniques and supervise operations. Portable videotape equipment is also often made available to community groups. Since the cable operation is responsible according to CRTC regulations for the content that is originated on the community channel, the operator can refuse to carry programs construed as harmful; it also works with community groups to create balanced programming.

Some cable systems have advisory boards of local citizens and a group of trained volunteers and community producers. No charge may be levied against community members using the channel, and no payment may be made by the cable operators to members of the public participating in the programming. Advertising is not allowed on the community channels.

The following section presents information received from a representative number of cable companies regarding some of

the educational and community development activities carried out on their company-originated channels:

- Practical training in program production, writing, interviewing, etc., is provided by a cable operator in Calgary, Alberta, to elementary and secondary school students. Also in Calgary, a cable company offers students tours of its facility and allows them to operate the equipment and produce short videotapes. Students in a Calgary secondary school produce and coordinate a bi-monthly program "Young Expressive Students" (YES) with the help of a staff member of the cable company. This kind of support to local schools by cable companies is quite common in the larger cities. In Metropolitan Toronto, a cable company also sponsors spelling contests for secondary school students. The programs are produced by the students.

- In Peterborough, Ontario, a cable company responded to the request of a secondary school teacher to help in giving grade 12 and 13 students exposure to the everyday problems of life in their community. The objectives were to develop an awareness of social problems and needs. The project became a cooperative one involving the school, the cable company, and local social agencies and was called the Community Involvement Program (CIP). The students, who are 16 to 18 years of age, take regular school classes in social issues, do 10 hours of volunteer work at a social agency (e.g., a daycare centre, a provincial court, or a centre for the handicapped), and then learn to produce a television program on the community channel about their experiences and the problems they identified.

- CIP has proved successful in Peterborough and has spread to secondary schools in Guelph, Ontario, as well, involving cable operators there.

- Another cable company in Peterborough responded to requests from a group of penitentiary inmates to work with them to produce a program on how inmates can become integrated into the community after leaving prison.

- A cable company in St. John's, Newfoundland, assisted the provincial Department of Education to promote the province's basic reading program on its community

channel. An informational television program was co-produced, which dealt with the fears of illiterate adults to attempt to achieve literacy.

- Another activity of the same cable company was a series of co-productions with a local hospital on public health issues, addiction, and emergency transportation services. Similarly, a series on mental illness was produced by a volunteer producer from the Canadian Mental Health Association for the same community channel.

- Cable companies in Ontario and Newfoundland reported that they have trained young adults in television technologies under the Government of Canada's employment retraining program.

- One cable company in Welland, Ontario, carried on its community channel a local community college course on the stock market, including classroom lectures and phone-in sessions. On another occasion, students from the same college produced a program explaining their college to community viewers.

- In Sarnia, Ontario, a cable company regularly has senior students in the community college broadcasting course work on the company's mobile unit that covers municipal council meetings.

- In St. John's, Newfoundland, a cable operator supplies the facilities for the "hands-on" portion of Memorial University Extension Department's course in broadcasting.

- A Calgary cable company works with the Southern Alberta Institute of Technology. Students studying radio and television arts produce newscasts for the community channel.

- Since 1981, a group of cable companies in Montreal have put a twenty-four-hour channel in Montreal and Quebec City at the disposal of the universities and some colleges (CEGEPS) in Quebec. The educational institutions offer credit courses as well as general information courses of wide public interest. The programs are cablecast on a repeat cycle day and night so

that they can reach the widest possible audience. Phone-in segments as well as audience participation in the cable companies' studios are included in the project.

SUMMARY

This paper has attempted to identify some of the major developments and activities in cable television in relation to education in Canada. The paper is by no means exhaustive. At present, the entire field of cable television in Canada is undergoing rapid change. It is clear that cable systems in Canada are becoming prime delivery systems of television services and as such are very important in the entire Canadian television system - broadcasting, the production industry, satellite services, pay-TV, and specialty pay-TV services.

NOTES

1. Canadian Radio-Television and Telecommunications Commission. Public Notice 1975-15, February 1975, pp.1-2.

2. ____. Community Television Handbook. Ottawa: CRTC, July 1983, p.5.

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MAP OF CANADA, showing physical dimensions, provincial and territorial divisions and major cities.

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